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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/698,927	10/26/2000	Jacques Yves Guigne	20/200	7122

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EXAMINER

LOBO, IAN J

ART UNIT

PAPER NUMBER

3662

DATE MAILED: 06/28/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/698,927	GUIGNE, JACQUES YUES <i>CD</i>
	Examiner	Art Unit
	Ian J. Lobo	3662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 17 April 2002.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-5, 8 and 9 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-5 and 8 is/are rejected.

7) Claim(s) 9 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

- Certified copies of the priority documents have been received.
- Certified copies of the priority documents have been received in Application No. _____.
- Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claim 8 is rejected under 35 U.S.C. 102(b) as being anticipated by Neal ('875).

3. Claim 8 is rejected under 35 U.S.C. 102(a and/or e) as being anticipated by Wilk ('199).

The patent to Neal discloses a matrix system that may be utilized in sonar. The system includes an array (10) comprising a plurality of transducers (12) and circuitry connected to the transducers. The plurality of transducers are arranged in a row and include at least three detectors.

The patent to Wilk discloses a system including an array (12) comprising a plurality of transducers (14) and circuitry connected to the transducers. The plurality of transducers are arranged in a row and include at least three detectors.

Claim Rejections - 35 USC 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neal ('875) or Wilk ('199) when taken in view of Guigne ('449) and Raudsep ('555).

The difference between claim 1 and the aforementioned Neal or Wilk systems is the claim specifies that the transducers are energized by a carrier frequency of at least 200 kHz and are modulated by a frequency less than the carrier frequency. Neither Wilk nor Neal discloses such a specific carrier frequency or modulation scheme.

Guigne teaches that operating carrier frequencies of at least 100 kHz (0.1 MHz) are well known in the art of undersea sonar investigations. Thus, it is seen from Guigne, that the claimed carrier frequency of 200 kHz is within the operating range of conventional sonar detection.

Raudsep teaches that it is well known to utilize a modulation scheme where a carrier frequency is modulated by a lower frequency

Thus, in view of Raudsep and Guigne, it would not have been unobvious to a skilled artisan to utilize an operating frequency of 200 kHz in Neal's or Wilk's system to achieve improved terrain imaging and further modulate the carrier frequency by a lower frequency. Claim 1 is so rejected.

Dependent claim 3 is further provided by the above combination of prior art.

6. Claims 2, 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neal ('875) or Wilk ('199) when taken in view of Guigne ('449), as applied to claim 1 above, and further in view of the SIR to Thompson et al ('490).

Claims 2, 4 and 5 further differ over Wilk and Neal in the specific height above the sea floor of the prospecting system.

Note that on col. 3, lines 43-44, Thompson et al teach that a preferable height for a marine prospecting system is about 1 to about 20 feet above the sea bottom. This is equivalent to the claimed less than 6 meters. In view of

Thompson et al, it is obvious to one of ordinary skill in the art to utilize the systems of Neal or Wilk at a height of less than six meters above the sea floor.

Allowable Subject Matter

7. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

8. Applicant's arguments filed April 17, 2002 have been fully considered but they are not persuasive.

First, with respect to Neal, and specific to claim 1, applicant argues that in Neal the pulses are not modulated by a lower frequency. However, the rejection has been modified to reflect that the Raudsep reference discloses such a modulation scheme and it would be obvious to one of ordinary skill in the art to utilize such a modulation scheme in the systems of Wilk or Neal. Next, applicant argues that in Neal there is no separate detector. However, this argument is not commensurate in scope with the claim. There is no limitation in the claim that requires a separate sound detector.

With respect to Wilk, applicant argues that the transducers in Wilk that create sonic pulses and the sensors are not interspersed. This is not commensurate in scope with the claim since claim 1 does not set forth such a limitation.

With respect to Guigne, applicant argues that Guigne does not suggest a carrier frequency of at least 200 KHz. However, Guigne does suggest a carrier frequency with a minimum of 100 KHz. This is within the range claimed.

In response to applicant's argument that Thompson is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Thompson is in the field of applicant's art and is therefore, applicable as a reference.

Further, with respect to Thompson, applicant argues that Thompson does not disclose the seismic source as being close to the seafloor and further a single source is disclosed and not a plurality of sources. However, it is argued that the Thompson reference is applied solely for it's teaching of placing the detectors within 6 meters of the seafloor. The combination of Wilk or Neal and Thompson would provide for sources (plural) to be interspersed with the detectors and located within 6 meters of the seafloor.

Finally, in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

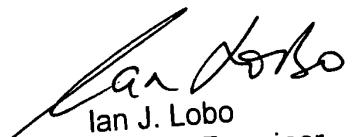
9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ian J. Lobo whose telephone number is (703) 306-4161. The examiner can normally be reached on Mon - Fri, 6:30 - 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarca can be reached on (703) 306-4171. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9326 for regular communications and (703) 872-9327 for After Final communications.

Any inquiry of a general nature or relating to the status of this application
or proceeding should be directed to the receptionist whose telephone number is
(703) 308-1113.



Ian J. Lobo
Primary Examiner
Art Unit 3662

ijl
June 25, 2002